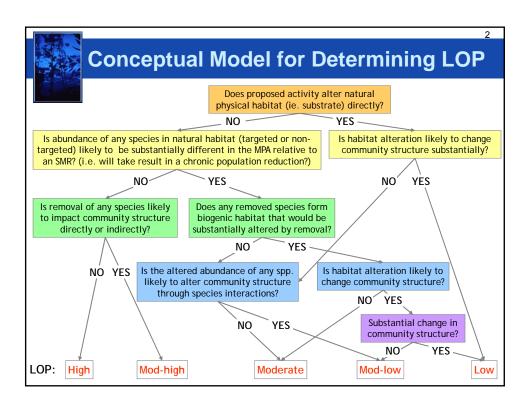
Marine Life Protection Act Initiative



Levels of Protection in the MLPA North Coast Study Region

Presentation to the MLPA Master Plan Science Advisory Team
May 12, 2010 • Webinar and Teleconference

Dr. Larry Allen, Member • MLPA Master Plan Science Advisory Team



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Assumptions Used in LOP Designations

In applying the conceptual model, the MLPA Master Plan Science Advisory Team (SAT) makes three important assumptions:

- Any extractive activity can occur locally to maximum extent allowable under current state and federal regulations
- For the purpose of comparison, an unharvested system is a marine reserve that is successful in eliminating fishing and other extractive uses within
- The proposed activity is occurring in isolation from other activities (i.e. without cumulative effects of multiple allowed activities); this assumption based upon limitations in SAT's ability to assess cumulative impacts of multiple activities, not a belief that cumulative impacts do not occur

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Levels of Protection: North Coast

Level of Protection	MPA Types	Activities associated with this protection level	
Very high	SMR	No take	
High	SMCA SMP	Salmon (H&L or troll in waters >50m depth); coastal pelagic finfish (H&L, round-haul net, dip net);	
Mod-high	SMCA SMP	Dungeness crab (trap, hoop-net, diving); salmon (troll in water <50m depth); surf and night smelts (dip-net, a-frame net, cast net)	
Moderate	SMC/ SMP	redtail surfperch (H&L from shore); Surfperch (H&L from shore); California halibut (H&L); coonstripe shrimp and spot prawn (trap); clams (intertidal hand harvest); turf algae ² (intertidal hand harvest); salmon (H&L in waters <50m depth)	
Mod-low	SMCA SMP	Pacific halibut (H&L); lingcod, cabezon, and rockfishes, and greenlings (H&L, spearfishing, trap); red abalone (free-diving); urchin (diving); surfperch (H&L)	
Low	SMCA SMP	Rock scallop (diving); mussels (hand harvest); bull kelp (hand harvest); ghost shrimp (hand harvest); sea palm (intertidal hand harvest); canopy-forming algae (intertidal hand harvest)	

- 1 The grouping "coastal pelagic finfish" includes: Northern anchovy (Engraulis mordax), Pacific herring (Clupea pallasi), jack mackerel (Trachurus symmetricus), Pacific mackerel (Scomber japonicus), and Pacific sardine (Sardinops sagax).
- 2 The grouping "turf algae" includes the following harvested groups: Porphyra spp. (Nori, Laver), Ulva spp. (Sea Lettuce), Chondrocanthus/Gigartina exasperata (Turkish Towel), and Mastocarpus spp. (Mendocino Grapestone).
- 3 The grouping "canopy-forming algae" includes the following harvested groups: Alaria spp. (Wakame), Lessonioposis littoralis (Ocean Ribbons), Laminaria spp. (Kombu), Saccharina/Hedophyllum sessile ('Sweet' Kombu), Egregia menzeisii (Feather Boa), and Fucus spp. (Bladder wrack or Rockweed).



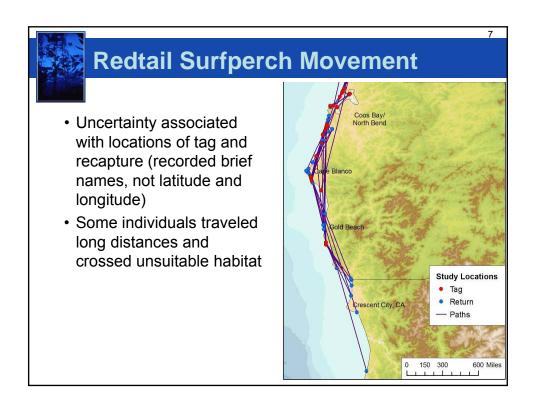
Redtail Surfperch Information

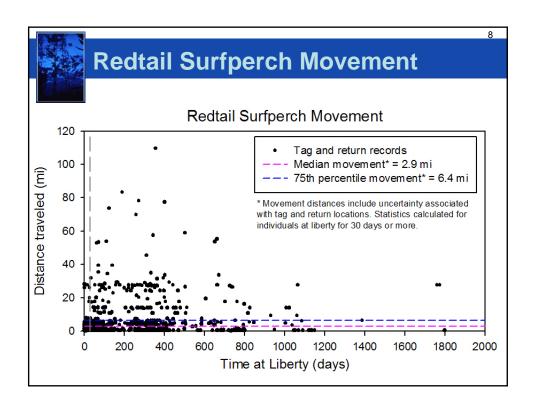
- Inhabit the surf zone on sandy beaches
- Viviparous: females give birth to 8-45 young annually
- · May aggregate in estuaries to mate
- · Commercial and recreational beach fishery in the north coast study region
- Some documented decline in the quantity and size of commercial catch (DFG Status of the Fisheries 2001)
 - Average annual catch of 50,000 lbs in the 1970s → 38.000 lbs in the 1990s
 - Average fish size 1.8 lbs in the 1950s \rightarrow 0.9 lbs in the 1990s

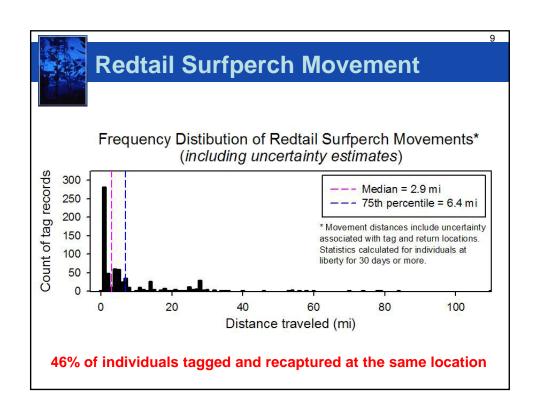
Redtail Surfperch Movement

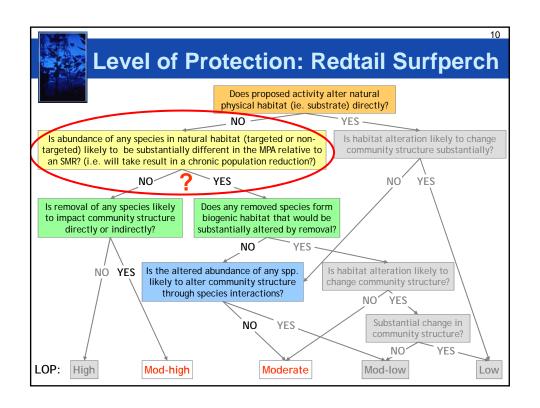
- Tag and recapture study conducted in Oregon by Oregon Department of Fish and Wildlife (ODFW)
- Long-duration study
- Over 700 redtail surfperch tagged and recaptured
- No apparent study design to account for variable fishing effort across the study zone
- ODFW did not explore the movement data, but provided it to MLPA staff for analysis











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Level of Protection: Redtail Surfperch

Can redtail surfperch populations be locally depleted by fishing, or conversely, locally enhanced by MPAs?

- Answer based on adult movement and reproductive potential
- "Yes" means retain existing LOP of moderate.
- "No" means LOP changed to moderate-high
- Difference of opinion within the SAT LOP Work Group: 3 said yes, 2 on the fence, 2 said no